

Voyageurs National Park Draft Spiny Water Flea Spread Prevention Plan

Background

Spiny water flea have invaded all of the Great Lakes, numerous inland lakes in the Great Lakes region, and now bodies of water within the Quetico Provincial Park, Superior National Forest, and Voyageurs National Park (Rainy Lake and the Namakan Reservoir). Park staff presumes that the interior lakes of the park are not infested with spiny water flea, since the invasion of Rainy Lake and the Namakan Reservoir occurred very recently, and it is unlikely that spiny water flea would be introduced directly into an interior lake without first being introduced into one of these large lakes.

Published research indicates that the invasion of a lake by spiny water flea can lead to a change in the lake's zooplankton community. Since spiny water flea competes with juvenile and small fish for food, they may also alter the food web of invaded lakes by reducing prey fish abundance.

Spiny water fleas are readily spread to new lakes due to the small size of individuals, hardiness, and a tendency to stick to equipment. When adult spiny water flea, or viable resting eggs, stick to boating or fishing equipment on an infested lake and are delivered to an uninfested lake on this equipment without being desiccated or killed with hot water, they may start a new infestation. For this reason, it may be important to eliminate several means of spiny water flea transmission to the interior lakes, including landing of air planes, portaging of private watercraft to interior lakes, and the use of aquatic live bait (minnows, leeches, crayfish, invertebrates, etc.) in the interior lakes.

The Minnesota Department of Natural Resources recently designated Rainy Lake and the Namakan Reservoir as infested waters. This designation carries general use restrictions that help prevent the spread of certain exotic aquatic species. Park staff will incorporate these restrictions into the draft management plan. The restrictions and pertinent state regulations can be found at: (84D.03 INFESTED WATERS; RESTRICTED ACTIVITIES) http://www.dnr.state.mn.us/ecological_services/invasives/laws.html#infested

Park staff will engage in an intensive education campaign to make visitors aware of the problem and hopefully to prevent invasion of the interior lakes. The park may need to take additional action immediately to limit the impact of the infestation, and to prevent the further spread of spiny water flea to the interior lakes of the park.

The following are three short-term measures that the park is proposing, to protect the park's interior lakes from the spread of spiny water flea:

- artificial bait only (on all interior lakes only)
- no personal watercraft allowed in interior lakes (the park will continue to provide canoes and row boats through the Boats on Interior Lakes program and Commercial Use Authorizations on Mukooda Lake)
- no float plane landings on interior lakes

Monitoring and Research

- The park has initiated a sampling plan for 2007 designed to both detect presence of spiny water flea and document zooplankton communities.
- Park will develop a long-term monitoring plan for detecting spiny water flea based on results from 2007.
- Investigate effects of spiny water flea on zooplankton communities and fish growth through a multi-park research project scheduled to begin in 2008 Preliminary sampling from 2007 will inform decisions regarding sampling design for the larger effort 2008-2010.
- Staff will follow recommended Best Management Practices for exotic species prevention

Education

- Perform public education at boat ramps and visitor centers
- Distribute aquatic exotic awareness and prevention information
- Develop a visitor center exhibit on exotic aquatic species
- Distribute a list of practices for visitors to prevent the spread of exotic aquatics
- Distribute identification cards for spiny water flea to visitors and staff

Best Management Practices for Visitors Recreating on the Large Lakes of the Park

- When leaving any lake:
 - Remove aquatic plants and animals, including gelatinous or cotton batting-like material from all equipment, including fishing lines and anchor ropes
 - Drain water from livewells, bait buckets, and bilges
 - Before entering another lake or river (within Voyageurs National Park or elsewhere):
 - Allow boats, trailers, anchor ropes, livewells, and equipment (including nets, fishing equipment, water filters, etc.) to thoroughly dry for at least 12 hours. This period of time is needed to completely desiccate resting eggs of spiny water flea.
- OR
- Spray boats and equipment with 140°F (60°C) water for 1 minute to kill all resting eggs and adults (resting eggs are highly resistant to chlorine and salt water and can withstand 100°F water for 10 minutes or more; therefore, salt and chlorine treatments are not recommended)

Best Management Practices for Visitors Recreating on the Interior Lakes of the Park

- Bring a separate set of gear that is likely to contact lake water (including fishing gear, water filters, etc.) to minimize spread of exotics between lakes
- When leaving a lake, remove aquatic plants and animals, including gelatinous or cotton batting-like material from equipment, including fishing line